

AntiCancer, Inc. v. Fujifilm Medical Systems, U.S.A., Inc., et al
U.S. District Court Case No. 3:09-cv-01311-AJB-JMA

REVISED Joint Claim Construction Chart
October 26, 2011

U.S. Patent No. 6,649,159

Claim Language: '159 Patent	Agreed Proposed Claim Construction	AntiCancer's Proposed Construction	Defendants' Proposed Construction
1. A method to monitor the ability of a promoter to promote expression in an animal of an endogenous gene that is controlled by said promoter , which method comprises:	<p><u>promoter</u>: A genetic segment which controls the expression of the gene to which it is linked (i.e., it acts as the “on/off switch” for the expression of that gene).</p> <p><u>expression</u>: a gene is “expressed” when the information encoded in the gene is manifested into an observable characteristic, most commonly the production of a protein.</p> <p><u>animal</u>: a multi-cellular organism of the kingdom of Animalia, characterized by a capacity for locomotion, nonphotosynthetic metabolism, pronounced response to stimuli, restricted growth and fixed bodily structure.</p> <p><u>endogenous gene</u>: a gene native to the animal being studied</p>		

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<p>a) delivering, to an animal, cells containing a nucleic acid encoding a fluorophore operatively linked to the promoter of said endogenous gene whose ability to promote expression is to be analyzed; and</p>	<p><u>delivering, to an animal, cells:</u> A process in which the nucleic acid is either administered directly into the body of the animal, or the nucleic acid is administered into a cell first, and then the cell containing the nucleic acid is administered into the body of the animal.</p> <p><u>nucleic acid:</u> DNA or RNA.</p> <p><u>fluorophore:</u> a protein that is auto-fluorescent such that no substrates or co-factors are needed for it to fluoresce.</p> <p><u>operatively linked:</u> the functional relationship of DNA with regulatory and effector sequences of nucleotides, such as promoters, enhancers, transcriptional and translational stop sites, and other signal sequences. For example, operative linkage of DNA to a promoter refers to the physical and functional relationship between the DNA and the promoter such that the transcription of such DNA is initiated from the promoter by an RNA polymerase that specifically recognizes, binds to, and transcribes the DNA.</p>		

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	<p><u>promoter:</u> see above.</p> <p><u>endogenous gene:</u> see above.</p> <p><u>expression:</u> see above.</p>		
<p>b) observing the presence, absence or intensity of the fluorescence generated by said fluorophore at various locations in said animal by whole-body external fluorescent optical imaging, whereby the ability of said promoter to promote expression is monitored, and wherein said fluorophore is a protein that is autofluorescent such that no substrates or cofactors are needed for it to fluoresce.</p>	<p><u>fluorescence:</u> emission of a longer wavelength light by a substance when it is being excited by shorter wavelength light (such as, e.g., the emission of green light by GFP when excited by blue or ultraviolet light), where the light emission continues only as long as the exciting light is shining on the substance.</p> <p><u>whole-body external fluorescent optical imaging:</u> An imaging process in which the presence, absence, extent or intensity of the fluorescence generated by the fluorophore at various locations in a host organism is monitored, recorded and/or analyzed externally without any procedure (e.g., surgery) to expose and/or to excise the desired observing site from the host organism.</p> <p><u>whereby the ability of said promoter to promote expression is monitored:</u></p>		

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	<p>whereby the ability of the promoter to cause its associated fluorophore to produce a protein is monitored.</p> <p><u>fluorophore</u>: see above.</p> <p><u>promoter</u>: see above.</p> <p><u>expression</u>: see above.</p>		
<p>5. The method of claim 1, wherein the fluorophore is selected from the group consisting of a green fluorescent protein (GFP), a blue fluorescent protein (BFP) and a red fluorescent protein (RFP).</p>	<p><u>green fluorescent protein (GFP)</u>: a protein that emits light upon incidence of an excitation; includes any suitable and convenient form of GFP; includes the native gene encoding GFP from <i>Aequorea victoria</i>; includes mutants found useful to enhance expression and to modify excitation and fluorescence; includes various forms of GFP including those which exhibit green color and colors other than green; includes but is not limited to GFP which have been isolated from other organisms, such as <i>Renilla reriformis</i>.</p> <p><u>fluorophore</u>: see above.</p>		
<p>7. The method of claim 1, wherein the animal is a mammal.</p>	<p>No construction necessary, except as to the terms above with respect to independent claim 1.</p>		
<p>8. The method of claim 7,</p>	<p>No construction necessary,</p>		

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wherein the mammal is selected from the group consisting of a mouse, a rat, a rabbit, a cat, a dog, a pig, a cow, an ox, a sheep, a goat, a horse, a monkey and a non-human primate.	except as to the terms above with respect to independent claim 1.		
9. The method of claim 1, wherein the endogenous gene is normally expressed in a tissue or organ specific manner .	endogenous gene: see above. expressed in a tissue or organ specific manner: a gene expression pattern in which a gene is expressed, either transiently or constitutively, only in certain tissues or organs, but not in other tissues or organs		
10. The method of claim 9, wherein the tissue is selected from the group consisting of connective, epithelium, muscle and nerve tissues.	No construction necessary, except as to the terms above with respect to independent claims 1 and 9.		
11. The method of claim 9, wherein the organ is selected from the group consisting of brain, lung, liver, spleen, bone marrow, thymus, heart, lymph, blood, bone, cartilage, pancreas, kidney, gall bladder, stomach, intestine, testis, ovary, uterus, rectum, nervous system, gland, and internal blood vessels.	No construction necessary, except as to the terms above with respect to independent claims 1 and 9.		

U.S. Patent No. 6,759,038

Claim Language: '038 Patent	Agreed Proposed Claim Construction	AntiCancer's Proposed Construction	Defendants' Proposed Construction
1. A method to evaluate a candidate protocol or drug for the inhibition of metastasis of a primary tumor which method comprises:	<p><u>candidate protocol</u>: proposed therapy regimen.</p> <p><u>metastasis</u>: the progression, spread, and migration of cancer over time from its initial or primary tumor site via various routes to another part of the body, and/or growth of secondary tumors at that other part of the body.</p> <p><u>primary tumor</u>: the original implanted tumor or the first arising tumor.</p>		
administering said protocol or drug to a subject which is a mouse, rat or rabbit which contains a primary tumor that stably expresses green fluorescent protein (GFP) in cells of said tumor when said tumor metastasizes	<p><u>primary tumor</u>: see above.</p> <p><u>a primary tumor that stably expresses green fluorescent protein (GFP) in cells of said tumor when said tumor metastasizes</u>: a primary tumor whose cells and whose daughter cells maintain the expression of GFP during metastasis.</p> <p><u>green fluorescent protein (GFP)</u>: a protein that emits light upon incidence of an excitation; includes any suitable and convenient form of GFP; includes the native gene encoding GFP from <i>Aequorea victoria</i>; includes mutants found</p>		

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	<p>useful to enhance expression and to modify excitation and fluorescence; includes various forms of GFP including those which exhibit green color and colors other than green; includes but is not limited to GFP which have been isolated from other organisms, such as <i>Renilla reriformis</i>.</p> <p><u>metastasis</u>: see metastasis above.</p>		
<p>and monitoring the progression of metastasis by observing the presence, absence or intensity of the fluorescence at various locations in the treated subject;</p>	<p><u>metastasis</u>: see above.</p> <p><u>fluorescence</u>: emission of a longer wavelength light by a substance when it is being excited by shorter wavelength light (e.g., the emission of green light by GFP when excited by blue or ultraviolet light), where the light emission continues only as long as the exciting light is shining on the substance.</p>		
<p>wherein said subject contains said tumor that expresses GFP and wherein said subject is a genetically immunocompromised mouse, rat or rabbit, or a mouse, rat or rabbit which is syngeneic to said tumor;</p>	<p><u>genetically immunocompromised</u>: having an inherited genetic defect which causes the subject's immune system to be deficient or impaired (such as nude and SCID mice); does not include subjects which are immunocompromised by irradiation or by providing immunosuppressants.</p> <p><u>GFP</u>: see above.</p>		

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	<u>syngeneic</u> : Genetically identical; includes a tumor derived from the same mouse.		
monitoring the progression of metastasis in a control, which contains a similar tumor that expresses green fluorescent protein ;	<u>metastasis</u> : see above. <u>similar tumor</u> : genetically identical to the treated tumor. green fluorescent protein : see above.		
wherein said control subject contains said tumor that expresses GFP wherein said control subject is an immunocompromised mouse, rat or rabbit, or a mouse, rat or rabbit which is syngeneic to said tumor;	<u>GFP</u> : see above. <u>immunocompromised</u> : see genetically immunocompromised. <u>syngeneic</u> : see above.		
and comparing the progression of metastasis in said treated subject with the progression of metastasis in said control subject wherein the control subject and treated subject are intact ;	<u>metastasis</u> : see above. <u>"intact"</u> : Of a living body or its parts: having no relevant component removed or destroyed.		
whereby a diminution of the progression of metastasis in said treated subject as compared to said control subject identifies the protocol or drug as effective in inhibiting metastasis .	<u>metastasis</u> : see above.		
2. The method of claim 1 wherein the progression of metastasis is	<u>fluorescent optical tumor imaging</u> : Acquiring a light image		

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monitored by fluorescent optical tumor imaging in the intact subject.	of a fluorescent tumor or fluorescent tumor cells of a subject, permitting real time and continuous observation, from anywhere in the subject. <u>metastasis</u> : see above. <u>intact</u> : see above.		
5. A method to monitor metastasis of a primary tumor in a subject which is a mouse, rat or rabbit which contains said primary tumor , and wherein said tumor stably expresses green fluorescent protein (GFP) in cells of said tumor when said tumor metastasizes,	<u>primary tumor</u> : see above. <u>metastasis/ metastasize</u> : see above. <u>GFP</u> : see above. wherein said tumor stably expresses green fluorescent protein (GFP) in cells of said tumor when said tumor metastasizes: see above.		
wherein said subject contains said tumor that expresses GFP and wherein said subject is a genetically immunocompromised mouse, rat or rabbit, or a mouse, rat or rabbit which is syngeneic to said tumor;	<u>GFP</u> : see above. <u>genetically immunocompromised</u> : see above. <u>syngeneic</u> : see above.		
which method comprises monitoring the progression of metastasis by observing the presence, absence or intensity of the fluorescence as a function of time at various locations in said subject wherein the subject is intact .	<u>metastasis</u> : see above. <u>fluorescence</u> : see above. <u>intact</u> : see above.		

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6. The method of claim 5 wherein the progression of metastasis is monitored by fluorescent optical tumor imaging in the intact subject.	<u>metastasis</u> : see above. <u>fluorescent optical tumor imaging</u> : see above. <u>intact</u> : see above.		